

Work Order ID 107857

107857

Page 1

Friday, October 04, 2013 10:54:15 AM

Item ID: D2646

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Aft Cap

Start Date: 10/4/2013 Start Qty: 50.00

50

Cust Item ID:

Required Date: 10/18/2013 Req'd Qty: 50.00

50

Customer:

Reference:

Approvals:

Process Plan:

CL

Date: 13/10/04

Tooling:

Date:

Run Start *NR1*

QC:

Date:

SPC (Y/N):

Date:

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr

Revision Nbr

D2646

Rev C

100

0.00

100

Purchasing

PURCHASING

Memo

0.00

Purchasing

Issue P/O: 21602 1-Spin as per Dwg D2646 2-Material release
note required*CL 13/10/04 50*

110

0.00

110

Packaging

Receive & Inspect for Damage & Mat'l Certs

Memo

0.00

Packaging

Ensure Material Release Note is attached

13/12/15 (50)

120

0.00

120

QC

QC6- Inspect dimensions to drawing

Memo

0.00

Quality Control

DAS
27
9-89

131015

*50
comp*

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data <input type="checkbox"/>									
Equip/Tooling <input type="checkbox"/>									
Operator <input type="checkbox"/>									
Material <input type="checkbox"/>									
Setup <input type="checkbox"/>									
Other <input type="checkbox"/>									
Process <input type="checkbox"/>									
Supplier <input type="checkbox"/>									
Training <input type="checkbox"/>									
Unapproved <input type="checkbox"/>									

FAULT CATEGORY

Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio	<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions	<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge	<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other
---	---	---	--	---

Work Order ID 107857

107857

Page 2

Friday, October 04, 2013 10:54:15 AM

Item ID: D2646 Accept *N900040100* Setup Start *NS1*
 Revision ID: Stop *NS2*
 Item Name: Aft Cap
 Start Date: 10/4/2013 Start Qty: 50.00 *50* Cust Item ID:
 Required Date: 10/18/2013 Req'd Qty: 50.00 *50* Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start *NR1*
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	Small Fab	0.00							
130	Memo	0.00							
Small Fab	1-Drill using DT8026 as per Dwg D2646.2-Open holes to .297 as per Dwg D2646.3-Deburr								
140	QC5- Inspect part completeness to step on W/O	0.00							
140	Memo	0.00							
QC									
Quality Control									
150	Chemical Conversion Coat per QSI005 4.1	0.00							
150	Memo	0.00							
HandFinish									
Hand Finishing									

P10

49-1 SAG 13-10-17

DAS
27
9-89
13/10/17

49
Con

P10 →

49 13-10-23

NCR: ☒ Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: [Signature] Date: 13/11/22

QA Closed: [Signature] Date: 13/11/20

Work Order: <u>107857</u> Part No. <u>D2646</u> NCR No. <u>13-3240</u>	DISPOSITION Rework <input type="checkbox"/> Scrap <input checked="" type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input checked="" type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input checked="" type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input checked="" type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data	<input type="checkbox"/>	13/10/17	B0	1	Scrap ONE Part when drilling part moved on operator RC operator error	DAS 16 9-89 13/10/25 022042	Scrap & destroy No replace \$ 20.18	SAD 13/10/17	DAS 27 1-89 13.10.17	DAS 16 9-89 13/10/25 022042
Equip/Tooling	<input checked="" type="checkbox"/>									
Operator	<input checked="" type="checkbox"/>									
Material	<input type="checkbox"/>									
Setup	<input type="checkbox"/>									
Other	<input type="checkbox"/>									
Process	<input type="checkbox"/>									
Supplier	<input type="checkbox"/>									
Training	<input type="checkbox"/>									
Unapproved	<input type="checkbox"/>									

FAULT CATEGORY

Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio	<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions														
<table style="width: 100%;"> <tr> <td><input type="checkbox"/> Ovalized</td> <td><input type="checkbox"/> Pressure/Forced</td> </tr> <tr> <td><input type="checkbox"/> Over/Under tolerance</td> <td><input type="checkbox"/> Temperature/Cure</td> </tr> <tr> <td><input type="checkbox"/> Part Incorrect</td> <td><input type="checkbox"/> Weld</td> </tr> <tr> <td><input type="checkbox"/> Part Lost/Missing</td> <td><input type="checkbox"/> Wrong Stock Pulled</td> </tr> <tr> <td><input type="checkbox"/> Part Moved</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Positioned Wrong</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Power Loss/Surge</td> <td><input type="checkbox"/> Other</td> </tr> </table>			<input type="checkbox"/> Ovalized	<input type="checkbox"/> Pressure/Forced	<input type="checkbox"/> Over/Under tolerance	<input type="checkbox"/> Temperature/Cure	<input type="checkbox"/> Part Incorrect	<input type="checkbox"/> Weld	<input type="checkbox"/> Part Lost/Missing	<input type="checkbox"/> Wrong Stock Pulled	<input type="checkbox"/> Part Moved		<input type="checkbox"/> Positioned Wrong		<input type="checkbox"/> Power Loss/Surge	<input type="checkbox"/> Other
<input type="checkbox"/> Ovalized	<input type="checkbox"/> Pressure/Forced															
<input type="checkbox"/> Over/Under tolerance	<input type="checkbox"/> Temperature/Cure															
<input type="checkbox"/> Part Incorrect	<input type="checkbox"/> Weld															
<input type="checkbox"/> Part Lost/Missing	<input type="checkbox"/> Wrong Stock Pulled															
<input type="checkbox"/> Part Moved																
<input type="checkbox"/> Positioned Wrong																
<input type="checkbox"/> Power Loss/Surge	<input type="checkbox"/> Other															

Work Order ID 107857

107857

Page 3

Friday, October 04, 2013 10:54:15 AM

Item ID: D2646 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Aft Cap
 Start Date: 10/4/2013 Start Qty: 50.00 ***50*** Cust Item ID:
 Required Date: 10/18/2013 Req'd Qty: 50.00 ***50*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160 *160* Powdercoat Powder Coating	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum <i>M 126125</i> Memo START TIME: <i>3:15</i> FINISH TIME: <i>3:45</i> OVEN TEMPERATURE:	0.00 0.00				<i>49</i>	<i>0</i>	<i>B-10-23</i>	DAS 34 9-89
170 *170* QC Quality Control	QC3- Inspect Part Finish Memo	0.00 0.00				<i>49</i>	<i>0</i>	<i>12/10/2013</i>	
180 *180* Small Fab Small Fab	Small Fab Memo Install inserts as per Dwg D2646	0.00 0.00				<i>49</i>	<i>SAD</i>	<i>12/10/2013</i>	

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data									
Equip/Tooling									
Operator									
Material									
Setup									
Other									
Process									
Supplier									
Training									
Unapproved									

FAULT CATEGORY

Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat-Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio	<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions
---	---	---

<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge	<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other	
--	---	--

Work Order ID 107857

107857

Page 4

Friday, October 04, 2013 10:54:15 AM

Item ID: D2646 Accept *N900040100* Setup Start *NS1*
 Revision ID: Stop *NS2*
 Item Name: Aft Cap
 Start Date: 10/4/2013 Start Qty: 50.00 *50* Cust Item ID:
 Required Date: 10/18/2013 Req'd Qty: 50.00 *50* Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start *NR1*
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

190

QC5- Inspect part completeness to step on W/O

0.00

190

QC

Memo

0.00

Quality Control

H9 / 13-10-24

DAS
34
9-89

200

Identify as per dwg & Stock Location: FP-001

0.00

200

Packaging

Memo

0.00

Packaging

X44 / 13/10/24

210

QC21- Final Inspection - Work Order Release

0.00

210

QC

Memo

0.00

Quality Control

13/11/14

13-10-24

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____				DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>		AGAINST DEPARTMENT/PROCESS <div style="display: flex; justify-content: space-between;"> <div> Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/> </div> <div> Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/> </div> <div> Water Jet <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/> </div> <div> Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/> </div> </div>					
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector		
Doc/Data											
Equip/Tooling											
Operator											
Material											
Setup											
Other											
Process											
Supplier											
Training											
Unapproved											

FAULT CATEGORY				
Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio	<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions	<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other	

Picklist Print

Friday, October 04, 2013 10:54:14 AM

Page 1

Work Order ID: 107857

Parent Item: D2646

Parent Item Name: Aft Cap

Start Date: 10/4/2013

Required Date: 10/18/2013

Start Qty: 50.00

Required Qty: 50.00

Comments: IPP: G05.08.22Hole size revised in Step 5KJ/JLM
IPP Rev:H Changed Inserts 07-02-19 JLM
IPP rev I changed inserts 07.06.11 EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
ALS7-1032-130 Rivnut		Purchased	No			110	Each	3,083.0000	2	100	98	12/10/21	
				<u>Location</u>	<u>Loc Qty</u>		<u>Loc Code</u>						
				FG	100								
				121444	100								
				FP001	305								
				117717	27								
				118966	22								
				119530	73								
				119775	2								
				120181	12								
				121444	166								
				122474	3								
				ST280	102								
				122763	52								
				124226	50								
				st510	2576								
				m126109	2576								
D2646P Aft Cap		Purchased	No			180	Each	0.0000	1	50	107857	12/10/21	

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

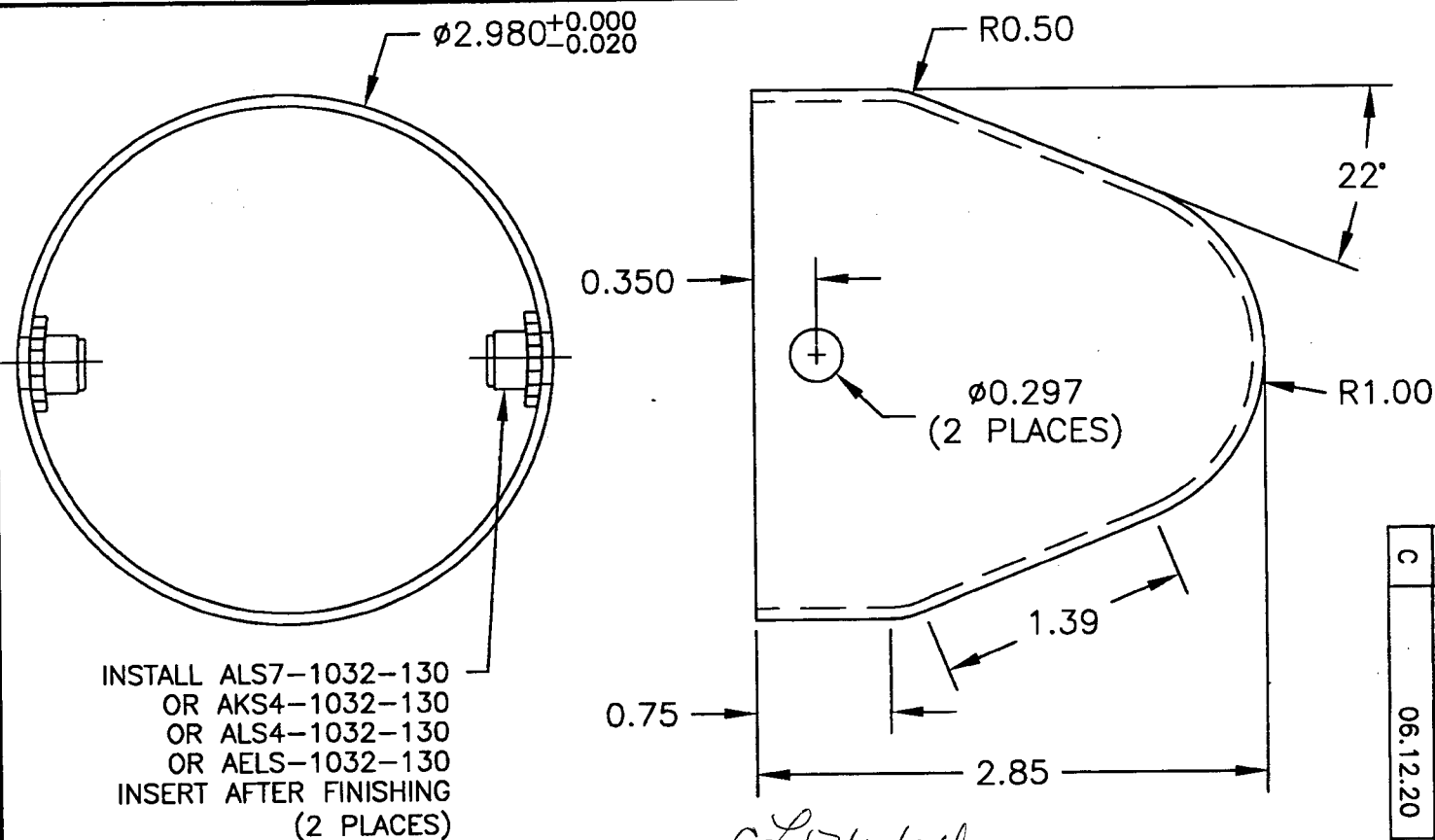
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data <input type="checkbox"/>									
Equip/Tooling <input type="checkbox"/>									
Operator <input type="checkbox"/>									
Material <input type="checkbox"/>									
Setup <input type="checkbox"/>									
Other <input type="checkbox"/>									
Process <input type="checkbox"/>									
Supplier <input type="checkbox"/>									
Training <input type="checkbox"/>									
Unapproved <input type="checkbox"/>									

FAULT CATEGORY

Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio	<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions
		<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge
		<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other

DART

DESIGN	DS	DRAWN BY	PH	DART AEROSPACE USA, INC.
CHECKED		APPROVED		PORT HADLOCK, WA
DATE	06.12.20	DRAWING NO.	D2646	REV. C
		TITLE	AFT CAP	SHEET 1 OF 1
				SCALE
A	97.03.25	NEW ISSUE		1:1
B	05.04.01	CHANGE TO CLOSED INSERTS		
C	06.12.20	CHANGE TO OPEN ENDED INSERTS		



CL13/10/04
W10:107857

D2646 AFT CAP

- 1) MATERIAL: ALUMINUM 1100-0 0.063 THICK (QQ-A-250/1)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT ASSEMBLY WHITE (4.3.5.1) PER DART QSI 005 4.3
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

RELEASED

07.02.12



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO21602

Purchase Order Date 10/4/2013

PO Print Date 10/4/2013

Page Number 1 of 1

Order From :

VC-SIE001

Ship To : DART AEROSPACE LTD

SIEG'S MANUFACTURING LTD.
6236 - 205 STREET
LANGLEY, BC V2Y 1N7
CA

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

FAKED
08/30/04

Contact Name

Vendor Phone 604 530 7455

Ship To Contact

Ship To Phone

Ship Via: FedEx PI collect

Ship Acct:

Buyer

Customer POID

Customer Tax # 10127-2607

Terms Net 30

Currency CAD

FOB Destination-Collect

Line Nbr	Reference Vendor Part Number Line Comments Delivery Comments	Description/ Mfg ID	Req Date/ Taxable Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
1	D2646P AS PER DWG D2646 REV. C B107857	Aft Cap	10/16/2013 Yes 10/16/2013		50.00 Each	\$6.70	\$335.00

Line Total: \$335.00

PO Total: \$335.00

Note: Pricing listed above is as per contract agreement between Dart Aerospace and the respective manufacturer.
No substitution or deviation without consent.

Certificate of Conformity or Material Certification required ☒ YES ☐ NO
PST# 6122-5207

Change Nbr:

1

Change Date: 10/4/2013



Sieg's Manufacturing Ltd.

Metal Spinning & Metal Fabricating

6236 205 Street, Langley, BC, Canada V2Y 1N7

Phone:(604)530 7455 Fax:(604)530-7490

Check out our website: www.siegsmf.com

Packing Slip

Packing Slip No.:

43136

Date:

10/10/2013

Page:

1

Sold to:		Ship to:	
DART AEROSPACE LTD. 1270 ABERDEEN STREET HAWKESBURY, ONTARIO K6A 1K7		DART AEROSPACE LTD. 1270 ABERDEEN STREET HAWKESBURY, ONTARIO K6A 1K7	
Order No.:	21602	Sold By:	LOWEY, ARLA
Shipped By:		Ship Date:	10/10/2013
Tracking No.:			

Item No.	Unit	Description	Quantity
D2646P	Each	Aft Cap	50
Comment:			



Sieg's Manufacturing Ltd.

6236 205 Street Langley, B.C. Canada V2Y 1N7

Ph#: (604)530-7455 fax#: (604)530-7490

arla@siegsmfg.com

INSPECTION REPORT

Date: October 10, 2013

Customer: Dart Areospace

Packing Slip: 43136

Part#:	Quantity	Material	Check holes	Insp. By.
D2646P	50	14g 1100- 0-	N/a	AL

Notes:

Material Certification Attached: Yes

ThyssenKrupp Materials NA
Copper and Brass Sales Division
95A Avenue 19044
V4N 4P2 Surrey
Tel.: 6048823493 Fax: 6048820686



Order number	Ord-pos	Del-pos	Part description
Customer PO	PO date	Quantity	Customer Part
MTR header	MTR type	Search criteria	Heat lot
=====			
C8A/1401020197	000010	900001	1100 Aluminum - O Aluminum Sheet 0.06300
1271	08.12.2011	80.000 ST	
Att_001.PDF	NCAP	930124417720110001	28149601A
=====			
C8A/1401020197	000010	900002	1100 Aluminum - O Aluminum Sheet 0.06300
1271	08.12.2011	8.000 ST	
Att_002.PDF	NCAP	930124192420110001	112843
=====			
C8A/1401020197	000010	900003	1100 Aluminum - O Aluminum Sheet 0.06300
1271	08.12.2011	12.000 ST	
Att_003.PDF	NCAP	930124417720110004	28149601A

Delivery number
2401597801
Date
12.12.2011

D Jewell

SIEGS MANUFACTURING LTD.
6236 205 ST
LANGLEY V2Y 1N7
CANADA

L-A-B
ACCREDITED
#L2068-1

ALERIS ROLLED PRODUCTS LLC
C/O ALERIS ROLLED PRODUCTS, INC.
P O BOX 480
LEWISPORT, KENTUCKY 42351

ALUMINUM CERTIFICATION SHEET

THIS IS TO ADVISE THAT THE MATERIAL PRODUCED FOR YOUR ORDER
CONFORMS TO THE SPECIFICATIONS OUTLINED BY THE ALUMINUM ASSOCIATION.
MATERIAL WAS MELTED, ROLLED, AND PROCESSED IN THE USA.
THE TEST RESULTS RELATE ONLY TO THE SKID IDENTIFIED BELOW:

SKID : 427978 CUSTOMER: THYSSENKRUPP MATERIALS, NA
ORDER: 00337316-000001 17901 ENGLEWOOD DRIVE
CLEVELAND OH44130
LOT : 281496
SUBLOT : 28149601A PO # : 124138
PART # :
DESCRIPTION: ALLOY 1100
TEMPER O
SIZE .0630 X 48.0000

SPECS: ASTM B209

DATE TESTED: 09/13/2011

CHEMICAL COMPOSITION - ASTM E1251

SI	FE	CU	MN	MG	CR	ZN	TI	GA	7	AL
.11	.60	.13	.00	.00	.00	.01	.00	.00	.00	99.11

DATE TESTED: 10/02/2011

MECHANICAL PROPERTIES - ASTM B557

	RESULTS	T42 RESULTS	T62 RESULTS
ULTIMATE TENSILE STRENGTH MIN (KSI)	13.5		
ULTIMATE TENSILE STRENGTH MAX	13.6		
ULTIMATE TENSILE STRENGTH AVG	13.6		
YIELD STRENGTH MIN (KSI)	5.9		
YIELD STRENGTH MAX	6.4		
YIELD STRENGTH AVG	6.2		
ELONGATION MIN %	30		
ELONGATION MAX %	30		
ELONGATION AVG %	30		

NET SKID WEIGHT: 8,422

CHEMICALS CERTIFIED: /S/ SUSAN MUDD, QUALITY SYSTEMS SUPERINTENDENT
MECHANICALS CERTIFIED: /S/ SUSAN MUDD, QUALITY SYSTEMS SUPERINTENDENT

L-A-B
ACCREDITED
#L2068-1

ALERIS ROLLED PRODUCTS, LLC
C/O ALERIS ROLLED PRODUCTS, INC.
P O BOX 480
LEWISPORT, KENTUCKY 42351

ALUMINUM CERTIFICATION SHEET

THIS IS TO ADVISE THAT THE MATERIAL PRODUCED FOR YOUR ORDER
CONFORMS TO THE SPECIFICATIONS OUTLINED BY THE ALUMINUM ASSOCIATION.
MATERIAL WAS MELTED, ROLLED, AND PROCESSED IN THE USA.
THE TEST RESULTS RELATE ONLY TO THE SKID IDENTIFIED BELOW:

SKID : 427979 CUSTOMER: THYSSENKRUPP MATERIALS, NA
ORDER: 00337316-000001 17901 ENGLEWOOD DRIVE
LOT : 281496 CLEVELAND OH44130
SUBLOT : 28149601A PO # : 124138
PART # :
DESCRIPTION: ALLOY 1100
TEMPER O
SIZE .0630 X 48.0000

SPECS: ASTM B209

DATE TESTED: 09/13/2011

CHEMICAL COMPOSITION - ASTM E1251

SI	FE	CU	MN	MG	CR	ZN	TI	GA	V	AL
.11	.60	.13	.00	.00	.00	.01	.00	.00	.00	99.13

DATE TESTED: 10/02/2011

MECHANICAL PROPERTIES - ASTM B557

	RESULTS	T42 RESULTS	T62 RESULTS
ULTIMATE TENSILE STRENGTH MIN (KSI)	13.5		
ULTIMATE TENSILE STRENGTH MAX	13.6		
ULTIMATE TENSILE STRENGTH AVG	13.6		
YIELD STRENGTH MIN (KSI)	5.9		
YIELD STRENGTH MAX	6.4		
YIELD STRENGTH AVG	6.2		
ELONGATION MIN %	30		
ELONGATION MAX %	30		
ELONGATION AVG %	30		

NET SKID WEIGHT: 8,441

CHEMICALS CERTIFIED: /S/ SUSAN MUDD, QUALITY SYSTEMS SUPERINTENDENT
MECHANICALS CERTIFIED: /S/ SUSAN MUDD, QUALITY SYSTEMS SUPERINTENDENT



Skana Aluminum Co
Rolling Mill - Certified Metal

Certification of Properties and Analysis

Physical test: 112843 Aluminum Alloy: 1100 Temper: -O- Thickness: .030

Tested For: Copper and Brass Sales

6156 PO No: 5400107660-R01

Chemical	Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn	Ti	Others	Al
Min Range	..	..	0.05	..	..	..	..	..	..	..	..
Max Range	.95 Si	+ Fe	0.20	0.05	..	..	..	0.1	..	0.05	..

Coil Ref. No.	1	2	3								
Tensile Strength KSI	13.03	13.12	12.81								
Yield Strength KSI	6.37	6.28	5.17								
% Elong. In 2 In.	31.70	31.70	31.60								

Coil Ref. No.											
Tensile Strength KSI											
Yield Strength KSI											
% Elong. In 2 In.											

Coil Ref. No.											
Tensile Strength KSI											
Yield Strength KSI											
% Elong. In 2 In.											

Coil Ref. No.											
Tensile Strength KSI											
Yield Strength KSI											
% Elong. In 2 In.											

Coil Ref. No.											
Tensile Strength KSI											
Yield Strength KSI											
% Elong. In 2 In.											

Remarks

Tested By: NH

Certified Date: 22 Sep 2011

NH .063 X 48.000 MF 3/3

ITEM# ALFLR01226

MEETS/EXCEEDS ASTM B209-10 SPEC8

Thursday, September 22, 2011

MADE IN THE U.S.A.

QF 824-1-1

Page 1 of 1



ThyssenKrupp

CERTIFIED CHEMICAL & MECHANICAL ANALYSIS

Sold To: Copper & Brass Sales
P.O. Box 5116

Ship To: Copper & Brass Sales
404 Centura Court

Southfield MI 48086-5116

Spartanburg SC 29303

Customer PO Number: 5400111624-R01

Part No:

Ken-Mac Order/Item: 462255-1

Item Description : MA .06300 48.000 144.000 1100 0 MFREG MFREG

Heat/Lot: 28149601A Mill Tag No : 427978
KM Stock No: 167291 Case Tickets: 752416, 752417, 752418

----- Chemical Composition -----
(Si) (Cu) (Fe) (Zn) (Al)
.1100 .1300 .6000 .0100 99.15

----- Mechanical Composition -----
Tensile PSI: 13,500 Yield PSI: 5,900 Elongation: 30.0 Hardness as Shipped:

Heat/Lot: 28149601A Mill Tag No : 427979
KM Stock No: 167292 Case Tickets: 752418, 752419, 752420

----- Chemical Composition -----
(Si) (Cu) (Fe) (Zn) (Al)
.1100 .1300 .6000 .0100 99.15

----- Mechanical Composition -----
Tensile PSI: 13,500 Yield PSI: 5,900 Elongation: 30.0 Hardness as Shipped:

Net Weight: 16,498

A Page 1

Bob Harley

Bob Harley - Corporate Quality Manager

L-A-B
ACCREDITED
#L2068-1

ALERIS ROLLED PRODUCTS, LLC
C/O ALERIS ROLLED PRODUCTS, INC.
P O BOX 480
LEWISPORT, KENTUCKY 42351

ALUMINUM CERTIFICATION SHEET

THIS IS TO ADVISE THAT THE MATERIAL PRODUCED FOR YOUR ORDER
CONFORMS TO THE SPECIFICATIONS OUTLINED BY THE ALUMINUM ASSOCIATION.
MATERIAL WAS MELTED, ROLLED, AND PROCESSED IN THE USA.
THE TEST RESULTS RELATE ONLY TO THE SKID IDENTIFIED BELOW:

SKID : 427978
ORDER: 00337316-000001
LOT : 281496
SUBLOT : 28149601A
DESCRIPTION: ALLOY 1100
TEMPER O
SIZE .0630 X 48.0000
CUSTOMER: THYSSENKRUPP MATERIALS, NA
17901 ENGLEWOOD DRIVE
CLEVELAND OH44130
PO # : 124138
PART # :

SPECS: ASTM B209

DATE TESTED: 09/13/2011

CHEMICAL COMPOSITION - ASTM B1251

SI	FE	CU	MN	MG	CR	ZN	TI	GA	V	AL
.11	.60	.13	.00	.00	.00	.01	.00	.00	.00	99.13

DATE TESTED: 10/02/2011

MECHANICAL PROPERTIES - ASTM B557

	RESULTS	T42 RESULTS	T62 RESULTS
ULTIMATE TENSILE STRENGTH MIN (KSI)	13.5		
ULTIMATE TENSILE STRENGTH MAX	13.6		
ULTIMATE TENSILE STRENGTH AVG	13.6		
YIELD STRENGTH MIN (KSI)	5.9		
YIELD STRENGTH MAX	6.4		
YIELD STRENGTH AVG	6.2		
ELONGATION MIN %	30		
ELONGATION MAX %	30		
ELONGATION AVG %	30		

NET SKID WEIGHT: 8,422

CHEMICALS CERTIFIED: /S/ SUSAN MUDD, QUALITY SYSTEMS SUPERINTENDENT
MECHANICALS CERTIFIED: /S/ SUSAN MUDD, QUALITY SYSTEMS SUPERINTENDENT

L-A-B
ACCREDITED
#L2068-1

ALERIS ROLLED PRODUCTS, LLC
C/O ALERIS ROLLED PRODUCTS, INC.
P O BOX 480
LEWISPORT, KENTUCKY 42351

ALUMINUM CERTIFICATION SHEET

THIS IS TO ADVISE THAT THE MATERIAL PRODUCED FOR YOUR ORDER
CONFORMS TO THE SPECIFICATIONS OUTLINED BY THE ALUMINUM ASSOCIATION.
MATERIAL WAS MELTED, ROLLED, AND PROCESSED IN THE USA.
THE TEST RESULTS RELATE ONLY TO THE SKID IDENTIFIED BELOW:

SKID : 427979
ORDER: 00337316-000001
LOT : 281496
SUBLOT : 28149601A
DESCRIPTION: ALLOY 1100
TEMPER O
SIZE .0630 X 48.0000
CUSTOMER: THYSSENKRUPP MATERIALS, NA
17901 ENGLEWOOD DRIVE
CLEVELAND OH44130
PO # : 124138
PART # :

SPECS: ASTM B209

DATE TESTED: 09/13/2011

CHEMICAL COMPOSITION - ASTM E1251

SI	FE	CU	MN	MG	CR	ZN	TI	GA	V	AL
.11	.60	.13	.00	.00	.00	.01	.00	.00	.00	99.13

DATE TESTED: 10/02/2011

MECHANICAL PROPERTIES - ASTM B557

	RESULTS	T42 RESULTS	T62 RESULTS
ULTIMATE TENSILE STRENGTH MIN (KSI)	13.5		
ULTIMATE TENSILE STRENGTH MAX	13.6		
ULTIMATE TENSILE STRENGTH AVG	13.6		
YIELD STRENGTH MIN (KSI)	5.9		
YIELD STRENGTH MAX	6.4		
YIELD STRENGTH AVG	6.2		
ELONGATION MIN %	30		
ELONGATION MAX %	30		
ELONGATION AVG %	30		

NET SKID WEIGHT: 8,441

EMICALS CERTIFIED: /S/ SUSAN MUDD, QUALITY SYSTEMS SUPERINTENDENT
CHANICALS CERTIFIED: /S/ SUSAN MUDD, QUALITY SYSTEMS SUPERINTENDENT

Skana Aluminum Company

Rolling Mill - Certified Metal

Certification of Properties and Analysis

Physical test: 112843 Aluminum Alloy: 1100 Temper: -O- Thickness: .0630
 Tested For: Copper and Brass Sales 6156 PO No: 5400107660-

Chemical	Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn	Ti	Others	Al
Min Range	..		0.05	..	..	..	..	..	..
Max Range	.95 Si	+ Fe	0.20	0.05	..	..	..	0.1	..	0.05	

1	13.03	5.37	31.79	Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn	Ti	Others
				.193	.484	.087	..	..	..	..	..	..	..

Al

BAL

2	13.2	5.28	31.70	Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn	Ti	Others
				.185	.049	.039	..	..	..	..	..	..	..

Al

BAL

3	12.51	5.17	31.60	Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn	Ti	Others
				.182	.439	.082	..	..	..	..	..	..	..

Al

BAL

Remarks

Tested By: NH

Certified Date: 22 Sep 2011

NH .063 X 48.000 MF 3/3

ITEM# ALFLR01226

MEETS/EXCEEDS ASTM B209-10 SPECS

Thursday, September 22, 2011

MADE IN THE U.S.A.

QF 824-1-2

Page 1 of 2

